CLAIMS:

1. A fluid treatment assembly, comprising:

a plurality of ultraviolet lamps adapted to be immersed in a fluid when the assembly is in use;

a plurality of ballast modules for powering said ultraviolet lamps, each of said ballast modules having a ballast electrically connected to at least one ultraviolet lamp for powering said at least one ultraviolet lamp, the ballast having a resonant circuit with a resonance frequency for generating an alternating voltage source to power said at least one ultraviolet lamp and a driver circuit with a pulse frequency for supplying the resonant circuit with pulses of electrical energy;

a frame member having a portion adapted to be immersed in the fluid when the assembly is in use, the frame member supporting said ultraviolet lamps and said ballast modules; and

an electrical system for receiving electrical energy, which has a voltage and a current, and providing such to said ballast modules;

wherein the resonance frequency is set in excess of 50 kHz.

2. The fluid treatment assembly of Claim 1, wherein the resonance frequency is substantially set in a first range of 50 kHz to 1 MHz.

3. The fluid treatment assembly of Claim 1, wherein the resonance frequency is substantially set in a first range of 100 kHz to 150 kHz.

4. The fluid treatment assembly of Claim 1, wherein the resonance frequency is substantially set in a first range of 200 kHz to 250 kHz

5. The fluid treatment assembly of Claim 2, wherein the power supplied to said at least one ultraviolet lamp decreases the further the pulse frequency deviates from the resonance frequency and wherein the pulse frequency is

varied substantially within a second range of 50kHz to 1 MHz to control the power supplied to said at least one ultraviolet lamp.

6. The fluid treatment assembly of Claim 3, wherein the power supplied to said at least one ultraviolet lamp decreases the further the pulse frequency deviates from the resonance frequency and wherein the pulse frequency is varied substantially within a second range of 150 kHz to 200 kHz to control the power supplied to said at least one ultraviolet lamp.

7. The fluid treatment assembly of Claim 4, wherein the power supplied to said at least one ultraviolet lamp decreases the further the pulse frequency deviates from the resonance frequency and wherein the pulse frequency is varied substantially within a second range of 150 kHz to 200 kHz to control the power supplied to said at least one ultraviolet lamp.

8. The fluid treatment assembly of Claim 1, wherein the resonant circuit comprises of a capacitance and an inductance in series.

9. The fluid treatment assembly of Claim 1, further comprising an assembly control unit for controlling said ultraviolet lamps; wherein each of said ballast modules further comprises a control section for controlling the ballast and interfacing with said assembly control unit.

10. The fluid treatment assembly of Claim 9, wherein the control section further comprises a monitor section for monitoring its respective ballast module and said at least one ultraviolet lamp, and reporting to said assembly control unit.

11. The fluid treatment assembly of Claim 1, wherein said ballast modules are removable from the fluid treatment assembly.

12. The fluid treatment assembly of Claim 1, wherein each of said ballast modules further comprises a power factor section to substantially synchronize the voltage and current of the electrical energy as viewed by an electrical energy monitor.

13. The fluid treatment assembly of Claim 1, wherein the resonance frequency is set at greater than 50 kHz for reduced size of components so that the width of a ballast sleeve of a ballast module is substantially the same as the width of a lamp sleeve of an ultraviolet lamp.

14. The fluid treatment assembly of Claim 1, wherein said ballast modules are immersed in the fluid for cooling by the fluid.

15. A ballast for powering at least one ultraviolet lamp with electrical energy, said at least one ultraviolet lamp being for use in a photochemical treatment of a fluid, where the ballast is to be immersed in the fluid for cooling by the fluid, the ballast comprising:

a resonant circuit having a resonance frequency for generating an alternating voltage source to power said at least one ultraviolet lamp; and

a driver circuit having a pulse frequency for supplying the resonant circuit with pulses of electrical energy;

wherein the resonance frequency is set in excess of 50 kHz.

16. The ballast of Claim 15, wherein the resonance frequency is substantially set in a first range of 50kHz to 1 MHz.

17. The ballast of Claim 15, wherein the resonance frequency is substantially set in a first range of 100 kHz to 150 kHz.

18. The ballast of Claim 15, wherein the resonance frequency is substantially set in a first range of 200 kHz to 250 kHz.